UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/997,507	11/26/2001	Onchuen Daryn Lau	ZETTA-01004US0	7256

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EXAMINER
ALI, SYED J

ART UNIT	PAPER NUMBER
2195	

DATE MAILED: 08/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/997,507	LAU ET AL.
	Examiner	Art Unit	
	Syed J. Ali	2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 July 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-35* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 November 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   This office action is in response to communication filed July 15, 2005. Claims 1-35 are

presented for examination. The text of those sections of Title 35, U.S. code not included in this

office action can be found in a prior office action.

Specification

2.   **The title of the invention is not descriptive. A new title is required that is clearly**

indicative of the invention to which the claims are directed.

3.   The following title is suggested: "Method for Scheduling Packet Transmission While

Maintaining Data Sequence".

4.   The cross reference related to the application cited in the specification must be updated

(i.e. update the relevant status, with PTO serial numbers or patent numbers where appropriate, on

page 2, lines 1-20). The entire specification should be so revised.

5.   The lengthy specification has not been checked to the extent necessary to determine the

presence of all possible minor errors. Applicant's cooperation is requested in correcting any

errors of which applicant may become aware in the specification.

Information Disclosure Statement

6.   The listing of references in the specification is not a proper information disclosure

statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information

submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be

incorporated into the specification but must be submitted in a separate paper." Therefore, unless

the references have been cited by the examiner on form PTO-892, they have not been

considered.

Election/Restrictions

7.   **Applicant's election with traverse of Group I in the reply filed on July 15, 2005 is**

acknowledged.   The traversal is found persuasive and the restriction requirement is

therefore withdrawn.

Claim Rejections - 35 USC § 112

8.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
> subject matter which the applicant regards as his invention.

9.   **Claims 1-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite**

for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention.

10.   The claims use redundant wording and improper grammar in a myriad of locations. The

claims are replete with such errors and it is very difficult to decipher what is meant to be the

limiting factors of the claims.   In different sets of independent claims, the same features are

claimed using differing terminology. Examiner has made a best effort at trying to take meaning

out of the claims.   The claims are interpreted as setting forth a method of queuing packet

transmissions and scheduling the packets for transmission during a particular time "window".

Requests may be queued and are reorganized later to maintain coherency. It is recommended

that the claims be redrafted, clearly indicating the limiting factors and how the scheduling

method operates.

Claim Rejections - 35 USC § 102

11.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

12.   **Claims 1-10, 14, and 16-35 are rejected under 35 U.S.C. 102(e) as being anticipated**

by Douceur et al. (USPN 6,247,061) (hereinafter Douceur).

13.   As per claim 1, Douceur teaches the invention as claimed, including a contentions

avoiding method (col. 2 lines 51-53, 58-63), said method being machine implemented and

comprising:

(a)   issuing to a job requestor a first time stamp representing a scheduled time within a

timing reference frame in which a first job is to be performed (col. 8 lines 15-21);

(b)   sending a combination of job payload data and a second time stamp representing

the scheduled first time (col. 8 lines 22-29);

(c)   storing the received job payload data in the job processor (col. 8 lines 50-64); and

(d)   processing the stored payload data within the provided timing reference frame
(col. 8 line 67 - col. 9 line 6).

14.   As per claim 2, Douceur teaches the invention as claimed, including a rates equalizing
method, where a job requestor sends to a job processor requests for processing of job payloads
(col. 8 lines 22-29), where the job processor sends to the job requestor corresponding grants (col.
9 lines 62-66), said rates equalizing method being machine implemented and comprising:

(a)   constraining the grant-issuing rate of the job processor to be no greater than a
grant-receiving rate which is tolerable by the job requestor over a long span of time (col.
10 lines 9-13); and

(b)   constraining the request-issuing rate of the job requestor to be no greater than the
grant-receiving rate that is tolerable by the job processor over said long span of time (col.
9 line 67 - col. 10 line 6).

15.   As per claim 3, Douceur teaches the invention as claimed, including a data sets
reordering method for returning to a pre-established order data sets transmitted from different
sources (col. 8 lines 30-37), processing the data sets (col. 8 lines 22-29), and transmitting the
processed sets to a common destination (col. 8 lines 22-38), said re-ordering method being
machine implemented and comprising:

(a)   associating with each data set a source indicator, a sequence indicator, and a
scheduling time stamp (col. 8 lines 15-21);

(b)   processing each data set at a local time corresponding to the scheduling time

stamp (col. 8 line 67 - col. 9 line 6); and

(c)   as data sets arrive at the common destination, positionally swapping the sets to

bring the sets into sequence with one another (col. 8 lines 31-38).

16.   As per claim 4, Douceur teaches the invention as claimed, including a distributed payload

processing system comprising:

first and second circuits each supporting multiple job requestors and job processors, said

circuits being interconnected to process jobs scheduled for a specific timeslot (Fig. 2). The

limitations presented are similar to those of claims 1-3.

17.   As per claims 5-10, Douceur teaches the invention as claimed, including a scheduling

support subsystem for scheduling payload processing, where a latency can be defined varying as

a function of one or more latency factors, including time (col. 9 line 62 - col. 10 line 14), where

the subsystem comprises:

(a)   a grant stamper for stamping grants with time markers representing a timing

reference frame (col. 8 lines 15-21); and

(b)   latency fixing means for fixing latency to a round-trip value (col. 10 lines 21-28),

wherein the round-trip value is greater than the average of effective latencies between the

grant release and the completed arrival of the payloads in the system (col. 11 lines 2-6,

21-28, 40-48), and commencing processing of the payload when the time corresponding

to the time marker has arrived (col. 8 line 67 - col. 9 line 6).

The latency fixing means of Douceur also includes an alignment queue (col. 13 lines 3-5) for delaying processing of received payloads to ensure that the payload are delivered in accordance with their associated time markers (col. 8 lines 52-64; col. 13 lines 14-23), and adjusting the latency between grant release and time of payload processing (col. 13 lines 41-56).

18.   As per claims 14 and 16-21, Douceur teaches the invention as claimed, including a scalable system for moving payload signals for delivery to destination circuits, comprising:

(a)   grant stamping units for stamping signals with a time stamp indicating a time frame when a payload signal is to be processed (col. 8 lines 15-21);

(b)   alignment queues for storing payload signals prior to processing times (col. 8 lines 15-21), where the payload signals are pushed and popped from the queues such that the signals may be processed at the corresponding time (col. 13 lines 3-56), but dropping the signal if the payload signal is determined to be invalid (col. 10 lines 14-20), and means for evaluating the latency and determining when corrective action should be taken (col. 9 line 62 - col. 10 line 46);

(c)   controlling means for determining which payload signals is to be processed in accordance with the grant time stamps (col. 8 line 67 - col. 9 line 6).

19.   As per claims 22-35, they are interpreted as claiming similar features to those that can be found in claims 1-21. Specifically, a set of payload processing units each has a set of incoming ports and outgoing ports, and receive payloads prescheduled for a particular processing window. The payloads are realigned to ensure that they are distributed and ordered in the proper sequence.

The payload processing unit also performs a rate sampling to ensure conformance with timing requirements and making changes if necessary to ensure that service requirements are met. Additionally, request queues are claimed that are similar to the alignment queues discussed above, while packaging or sequencing (re-ordering) payloads after they have been processed.

20.   These features can all be found in the claims addressed above. If Applicant believes the claims have been mischaracterized, it is hereby recommended that the claims be redrafted clearly pointing out what features are included in claims 22-35 that are not present within claims 1-22. As is, the present claims appear to merely reword the prior claims. There is a great deal of redundant language and the grammar is deficient to the point that the claims are barely readable. The additional features relating to ECC is a well known aspect of packet transmission; Douceur inherently teaches such an error correction code simply by dealing with conformance and sequencing of packet delivery, as ECC codes are typically inserted to ensure that data has arrived without significant failure. Douceur provides many fail-safes, seeking to provide data conformance.

Allowable Subject Matter

21.   **Claims 11-13 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.**

22.   Applicant is advised that despite the indication that claims 11-13 and 15 would be allowable if incorporated into the independent claims, there are still significant § 112 issues that require attention (please see paragraphs 9 and 18).

Conclusion

23.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Syed J. Ali whose telephone number is (571) 272-3769. The examiner can normally be reached on Mon-Fri 8-5:30, 2nd Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai T. An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Syed Ali
August 1, 2005

MAJID BANANKHAH
PRIMARY EXAMINER